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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,097	12/10/2003	Daniel W. Bedell	HIT1P023/HSJ920030085	2439
50535	7590	12/02/2005	US1	
ZILKA-KOTAB, PC P.O. BOX 721120 SAN JOSE, CA 95172-1120			EXAMINER CHACKO DAVIS, DABORAH	
			ART UNIT	PAPER NUMBER
			1756	
DATE MAILED: 12/02/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/733,097

Applicant(s)

BEDELL ET AL.

Examiner

Daborah Chacko-Davis

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12/10/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 29-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/03</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-28, are drawn to a method, classified in class 430, subclass 313.
  - II. Claim 29 is drawn to a system, classified in class 369, subclass 24.01.
  - III. Claims 30-35, are drawn to a product, classified in class 430, subclass 270.1.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the method can be performed in a materially different system such as an ion-beam sputtering system.
3. Inventions I and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product can be used in a materially different process such as molding.
4. Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of

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operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case Invention III is an adhesive composition and cannot be used in the magnetic storage system.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. During a telephone conversation with Mr. Ronald Feece on November 22, 2005, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-28. Affirmation of this election must be made by applicant in replying to this Office action. Claims 29-35, are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

7. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-8, 13-22, and 27-28, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent Application Publication No. 2001/0005741 (Breyta et al., herein after referred to as Breyta) in view of U. S. Patent No. 5,017,271 (Whewell et al).

Breyta, in [0008], [0009], [0010], [0011], [0071], and in figures 5-8, discloses a method of forming a metal layer on the substrate by coating the substrate with a release layer (barrier layer) that comprises a polyphenolic polymer with repeating monomeric units and having the formula recited in claims 1, and 15, and is antireflective; coating the adhesive layer (release layer) with a top imaging layer (top layer) of photoresist material; exposing the photoresist layer through a mask; removing the exposed portion of the top imaging layer, and the exposed portion of the barrier layer (adhesive layer) using a developer as a result of which an undercut is formed under the top imaging layer; and depositing a metal layer onto the exposed portion of the substrate (claims 1, 7-8, 13-15, 21-22, and 27-28). Breyta, in [0010], [0012], discloses that the substrate includes a seed layer (adhesion promoter layer), the release layer being formed on the adhesion promoter layer (seed layer) (claims 2, 16). Breyta, in [0015], and [0016], discloses that the release layer composition may comprise 100% of polyphenolic polymer (claims 3, 17). Breyta, in [0073], discloses that the release layer (monolayer, reference 2 of figure 1) (barrier layer) was spin coated on to the substrate (claims 4-5, 18-19). Breyta, in [0013], discloses that only one of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, and R<sub>5</sub> is a hydroxyl group (claims 6, and 20).

The difference between the claims and Breyta is that Breyta does not disclose that the material is formed on the exposed portion of the substrate by plating.

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Whewell, in col 6, lines 39-47, discloses plating the exposed portion of the substrate with a material layer.

Therefore, it would be obvious to a skilled artisan to modify Breyta by replacing the sputtering process with a plating process as suggested by Whewell because Whewell, in col 4, lines 46-59, discloses that the metal layer can be either electroplated or sputtered onto the exposed portion of the substrate, and Whewell, in col 5, lines 35-39, discloses that the preferred method of depositing the material layer onto the exposed portion of the substrate is plating because it is less expensive and less time consuming than sputtering.

10. Claims 9-11, and 23-25, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent Application Publication No. 2001/0005741 (Breyta et al., herein after referred to as Breyta) in view of U. S. Patent No. 5,017,271 (Whewell et al) as applied to 1-8, 13-22, and 27-28, and further in view of U. S. Patent No. 6,866,987 (Lee).

Breyta in view of Whewell is discussed in paragraph no. 9.

The difference between the claims and Breyta in view of Whewell is that Breyta in view of Whewell does not disclose that the developer does not remove the exposed portion of the barrier layer (claims 9, and 23). Breyta in view of Whewell does not disclose that the barrier layer is removed by reactive ion etching (claims 10, and 24). Breyta in view of Whewell does not disclose that the barrier layer is removed by milling (claims 11, and 25).

Lee, in col 3, lines 42-57, and in col 4, lines 9-15, discloses that the exposed

portions of the barrier layer (layer beneath the imaging photoresist layer, under layer resist) is not removed by the developer, and that the exposed portion of the under layer resist (barrier layer) can be removed by milling or RIE using the top layer photoresist as the mask.

Therefore, it would be obvious to a skilled artisan to modify Breyta in view of Whewell by employing the etching methods suggested by Lee because Lee, in col 3, lines 55-64, and in col 4, lines 10-15, discloses that the exposed layer of resist beneath the top layer resist can either be developed or milled or etched (RIE) such that etching occurs only in the direction normal or near normal to the substrate surface resulting in a controlled undercut.

11. Claims 12, and 26, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent Application Publication No. 2001/0005741 (Breyta et al., herein after referred to as Breyta) in view of U. S. Patent No. 5,017,271 (Whewell et al) as applied to claims 1-8, 13-22, and 27-28 above, and further in view of U. S. Patent No. 6,218,056 (Pinarbasi et al).

Breyta in view of Whewell is discussed in paragraph no. 9.

The difference between the claims and Breyta in view of Whewell is that Breyta in view of Whewell does not disclose that removing the exposed portion of the barrier layer does not create undercuts under the photoresist (claims 12, and 26).

Pinarbasi, in col 6, lines 38-54, discloses that the release layer (beneath the photoresist layer mask) is exposed, for removal, to the e-beam and is scissioned and not necessarily undercut (see figures 10, and 11).

Therefore, it would be obvious to a skilled artisan to modify Breyta in view of Whewell by employing the etching methods suggested by Pinarbasi because Pinarbasi, in col 6, lines 55-67, in col 7, lines 1-7, discloses that exposing the release layer to e-beam results in the use of weak developers that can be developer-controlled so as to precisely define, and control the height and the length of the undercuts formed in the release layer under the top photoresist layer.

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daborah Chacko-Davis whose telephone number is (571) 272-1380. The examiner can normally be reached on M-F 9:30 - 6:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dcd

  
November 23, 2005.

  
**JOHN A. MCPHERSON**  
**PRIMARY EXAMINER**